

Content-Based Image Retrieval Using Multiple Shape Descriptors

Sarfraz, M. Ridha, A.; King Fahd Univ. of Pet. & Miner., Dhahran;
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King Fahd University of Petroleum & Minerals

<http://www.kfupm.edu.sa>

Summary

In this paper we investigate content-based image retrieval using various shape descriptors. The descriptors include 11 moment invariants, area ratios (3-concentric ring based and 8-sector based) and simple shape descriptors (eccentricity, compactness, convexity, rectangularity, and solidity). The similarity measures used are Euclidean distance and Cosine correlation coefficient. For testing, 220 binary images from SQUID categorized into 12 image groups are used. Simple Shape Descriptors with Euclidean distance achieve the best average precision (0.593). Combining simple shape descriptors and area ratios, also using Euclidean distance as similarity measure, results in 3.29% improvement.

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